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IN THE CLAIMS

Please amend the claim as follows:

- 1. (Currently Amended) A semiconductor optical transmitter including a plurality of active layers formed on a semiconductor substrate, the optical transmitter comprising:
- a distributed feedback laser diode including a grating for-that is configured to reflecting light with a predetermined wavelength -and a first active layer for-that is configured to oscillateing received light received from the grating;

an electro-absorption modulator including a second active layer for that is configured to receive light -from the first active layer, wherein the received light intensity of the light received from the first active layer is modulated through a change of absorbency in accordance with an applied voltage;

- an optical amplifier including a third active layer for-that is configured to amplifying received light received from the second active layer;
- a first <u>bidirectional</u> optical attenuator <u>interposed</u> between the first active layer and the second active layer; and
- a second <u>bidirectional</u> optical attenuator <u>interposed</u> between the second active layer and the third active layer.
- 2. (Original) The semiconductor optical transmitter as claimed in claim 1, wherein the semiconductor optical transmitter is a semiconductor monolithic integrated optical transmitter.
- 3. (Currently Amended) The semiconductor monolithic integrated optical transmitter as claimed in claim 2, wherein the first <u>bidirectional</u> optical attenuator is formed between the distributed feedback laser diode and the electro-absorption modulator.

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- 4. (Currently Amended) The semiconductor monolithic integrated optical transmitter as claimed in claim 3, wherein the <u>bidirectional</u> first optical attenuator <u>is configured to mitigates</u> hole pile-up in the electro-absorption modulator.
- 5. (Currently Amended) The semiconductor monolithic-integrated-optical transmitter as claimed in claim 2, wherein the second <u>bidirectional</u> optical attenuator is formed between the electro-absorption modulator and the semiconductor optical amplifier.
- 6. (Currently Amended) The semiconductor monolithic-integrated optical transmitter as claimed in claim 5, wherein the second <u>bidirectional</u> optical attenuator <u>is configured to adjusts</u> intensities of <u>received light in received by</u> the semiconductor optical amplifier.
- 7. (Currently Amended) The semiconductor monolithic integrated-optical transmitter as claimed in claim 2, wherein the distributed feedback laser diode, the electro-absorption modulator and the semiconductor optical amplifier, each have respective different energy bandgaps.
- 8. (Currently Amended) The semiconductor monolithic integrated optical transmitter as claimed in claim 2, wherein an energy bandgap of the electro-absorption modulator is largest and an energy bandgap of the distributed feedback laser diode is smallest.
- 9. (Currently Amended) The semiconductor monolithic integrated-optical transmitter as claimed in claim 2, wherein the third active layer of the optical amplifier has an adjustable gain in accordance with an applied current.

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- 10. (Currently Amended) The semiconductor monolithic integrated-optical transmitter as claimed in claim 2, wherein the third active layer of the optical amplifier has a predetermined gain peak.
- 11. (Currently Amended) The semiconductor monolithic integrated optical transmitter as claimed in claim 9, wherein the optical amplifier has a linear gain and a non-linear range mode of operation.
- 12. (Currently Amended) The semiconductor monolithic integrated-optical transmitter as claimed in claim 11, wherein the optical amplifier in the non-linear gain mode compensates for frequency chirp of the EA MOD electro-absorption modulator.
- 13. (New) The semiconductor optical transmitter as claimed in claim 2 further comprising a first trench interposed between the distributed feedback laser diode and the electro-absorption modulator.
- 14. (New) The semiconductor optical transmitter as claimed in claim 13 further comprising a second trench interposed between the electro-absorption modulator and the optical amplifier.
- 15. (New) The semiconductor optical transmitter as claimed in claim 1 further comprising a window being contiguous to the third active layer, being configured to receive light from the third active layer, and being configured to diverge light received from the third active layer.

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- 16. (New) The semiconductor optical transmitter as claimed in claim 2 further comprising an antireflection layer applied to an end of the transmitter, the end adjacent to the semiconductor optical amplifier.
- 17. (New) The semiconductor optical transmitter as claimed in claim 1, wherein the first bidirectional optical attenuator is configured to mitigate hole pile-up in the electro-absorption modulator.
- 18. (New) The semiconductor optical transmitter as claimed in claim 1, wherein the first bidirectional optical attenuator has a thickness larger than that of the first and second active layers to diverge light received from the first active layer or the second active layer.
- 19. (New) The semiconductor optical transmitter as claimed in claim 1, wherein the second bidirectional optical attenuator has a thickness larger than that of the second and third active layers to diverge light received from the second active layer or the third active layer.